What is claimed is:

1. An isolated *Geobacillus stearothermophilus* reverse transcriptase, wherein the reverse transcriptase is an group II intron-type reverse transcriptase.

2. A substantially purified polypeptide, comprising an amino acid sequence selected from the group consisting of:

a) SEQ ID NO: 2, and

b) a variant of SEQ ID NO: 2 having at least 80% identity to SEQ ID NO: 2 which comprises a similar reverse transcriptase activity to that of a polypeptide comprising SEQ ID NO: 2.

3. A catalytically active deletion mutant of the polypeptide comprising SEQ ID NO: 2, wherein the deletion mutant lacks at least one amino acid of said polypeptide.

4. A composition comprising the polypeptide of claim 3 and a carrier.

5. A purified or isolated polynucleotide comprising a nucleic acid selected from the group consisting of:

a) SEQ ID NO:1;

b) a nucleic acid encoding the amino acid sequence of SEQ ID NO: 2; and

c) a nucleic acid which hybridizes with the nucleic acid of b) under stringent conditions and encodes a polypeptide having a similar reverse transcriptase activity to that of the polypeptide comprising SEQ ID NO:2.

6. A vector comprising the polynucleotide of claim 5.

7. A host cell comprising the vector of claim 6.

8. A method of producing a reverse transcriptase, the method comprising:

a) culturing the host cell of claim 7;

b) expressing said gene; and

c) isolating said reverse transcriptase from said host cell.

9. The method of claim 8, wherein the host cell is *E. coli.*

10. A kit for performing RT-PCR, the kit comprising-at least one aliquot of a substantially purified protein selected from the group consisting of:

a) a polypeptide as described by SEQ ID NO: 2, and

b) a variant of the polypeptide described by SEQ ID NO: 2 having at least 80% identity to SEQ ID NO: 2 which comprises a similar reverse transcriptase activity to that of a polypeptide comprising SEQ ID NO: 2.

11. The kit of claim 10 further comprising at least one reaction buffer.

12. The kit of claim 10 further comprising at least one aliquot of an RNase inhibitor.

13. The kit of claim 10 further comprising at least one aliquot of a DNA polymerase.

14. The kit of claim 13 wherein the DNA polymerase is Taq polymerase.

15. A method of synthesizing a cDNA copy of an mRNA template, the method comprising:

(a) hybridizing a primer to a first mRNA molecule; and

(b) incubating said mRNA molecule of step (a) in the presence of one or more deoxy- or dedioxy ribonucleoside triphosphates and the reverse transcriptase of claim 1, under conditions sufficient to synthesize a cDNA molecule complementary to all or a portion of the first mRNA molecule.

16. The method of claim 15 wherein the primer is an oligo d(T) primer.